

Notes on Ectoparasites of Some Small Mammals from Santa Catarina State, Brazil

PEDRO MARCOS LINARDI,¹ JOSÉ RAMIRO BOTELHO,¹
ALFREDO XIMENEZ,² AND CARLOS ROBERTO PADOVANT²

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ABSTRACT A small collection of mammals, including 34 individuals from Santa Catarina State, was examined for ectoparasites. One species of tick, eight species of mites, one species of sucking louse, one species of biting louse, and one species of flea are recorded for the first time from Santa Catarina. New host records are given for two species of Acari, one of louse, and one of flea. Species that occurred in single or multiple infestations are recorded.

KEY WORDS Insecta, Acari, fleas, lice

THERE ARE RELATIVELY FEW RECORDS of ectoparasites on wild mammals from Brazil in which fleas, lice, ticks, and mites are studied simultaneously. The most relevant were obtained from Minas Gerais State (Botelho 1978), in Caratinga (Linardi et al. 1984), in Belo Horizonte (Linardi et al. 1987),

in Juiz de Fora (Whitaker & Dietz 1987), in Serra da Canastra National Park. Another paper records ectoparasites from Rio de Janeiro State (Guitton et al. 1986).

Our report deals with host distribution of ectoparasites related to a collection of 580 specimens captured on 30 wild rodents and 4 marsupials in Florianópolis, Santa Catarina State, Brazil. The ectoparasites were recovered from the hosts' pelage and skin from August 1985 to November 1986. They were initially preserved in 70% ethanol and subsequently mounted on permanent slides for tax-

¹ Departamento de Parasitologia, Instituto de Ciências Biológicas, Universidade Federal de Minas Gerais, Caixa Postal 2486, 31270, Belo Horizonte, Minas Gerais, Brasil.

² Departamento de Biologia, Universidade Federal de Santa Catarina, 88049, Florianópolis, Santa Catarina, Brasil.

Table 1. Ectoparasites encountered on 34 mammals from Santa Catarina State, Brazil

Ectoparasites	<i>Akodon cursor</i> n ¹ = 7		<i>Oryzomys</i> <i>elturus</i> n ¹ = 16		<i>Oryzomys</i> sp. n ¹ = 3		<i>Oxymycterus</i> <i>rutilans</i> n ¹ = 4		<i>Lutreolina</i> <i>crassicaudata</i> n ¹ = 4		Total n ¹ = 34	
	No. infested (%)	n ²	No. infested (%)	n ²	No. infested (%)	n ²	No. infested (%)	n ²	No. infested (%)	n ²	No. infested (%)	n ²
Acari	7 (100)	168	16 (100)	204	3 (100)	81	2 (50.0)	48	2 (50.0)	39	30 (88.2)	540
<i>A. auricularium</i>	—	—	—	—	—	—	—	—	2 (50.0)	39	2 (5.9)	39
<i>Amblyomma</i> sp.	1 (14.3)	4	—	—	—	—	—	—	—	—	1 (2.9)	4
<i>A. fahrenheiti</i>	—	—	—	—	—	—	2 (50.0)	39	—	—	2 (5.9)	39
<i>A. guimaraesi</i>	2 (28.6)	6	—	—	—	—	—	—	—	—	2 (5.9)	6
<i>A. rotundus</i>	5 (71.4)	158	1 (6.2)	24	—	—	—	—	—	—	6 (17.6)	182
<i>G. butantanensis</i>	—	—	14 (87.5)	44	3 (100)	9	—	—	—	—	17 (50.0)	53
<i>L. paulistanensis</i>	—	—	12 (75.0)	62	—	—	—	—	—	—	12 (35.3)	62
<i>M. interospirosus</i>	—	—	6 (37.5)	27	3 (100)	72	—	—	—	—	9 (26.5)	99
<i>M. parvispinosus</i>	—	—	12 (75.0)	47	—	—	—	—	—	—	12 (35.3)	47
<i>Ornithonyssus</i> sp.	—	—	—	—	—	—	2 (50.0)	9	—	—	2 (5.9)	9
Anoplura	5 (71.4)	11	—	—	1 (33.3)	2	1 (25.0)	3	—	—	7 (20.6)	16
<i>H. imparata</i>	5 (71.4)	11	—	—	—	—	—	—	—	—	5 (14.7)	11
<i>H. trassosai</i>	—	—	—	—	1 (33.3)	2	—	—	—	—	1 (2.9)	2
<i>Hoplopleura</i> sp.	—	—	—	—	—	—	1 (25.0)	3	—	—	1 (2.9)	3
Mallophaga	—	—	—	—	—	—	1 (25.0)	1	—	—	1 (2.9)	1
<i>G. pallidus</i>	—	—	—	—	—	—	1 (25.0)	1	—	—	1 (2.9)	1
Siphonaptera	1 (14.3)	1	2 (12.5)	4	—	—	4 (100)	10	2 (50.0)	8	9 (26.5)	23
<i>A. t. intermedia</i>	—	—	—	—	—	—	—	—	1 (25.0)	1	1 (2.9)	1
<i>C. f. felis</i>	—	—	—	—	—	—	—	—	1 (25.0)	1	1 (2.9)	1
<i>P. rimateus</i>	1 (14.3)	1	2 (12.5)	4	—	—	4 (100)	10	2 (50.0)	6	9 (26.5)	21
Total	7 (100)	180	16 (100)	208	3 (100)	83	4 (100)	62	4 (100)	47	34 (100)	580

n¹, number of hosts examined.

n², number of ectoparasites collected.

Table 2. Single and multiple infestations of ectoparasites on mammals from Santa Catarina State, Brazil

Infestation (No.)	Ectoparasites (No.)	Hosts
Single: 8	<i>A. auricularium</i> (2)	<i>L. crassicaudata</i>
	<i>Amblyomma</i> sp. (1)	<i>A. cursor</i>
	<i>A. rotundus</i> (1)	<i>A. cursor</i>
	<i>H. imparata</i> (1)	<i>A. cursor</i>
	<i>P. rimatus</i> (3)	<i>O. rutilans</i> (2)
Double: 9	<i>A. rotundus/H. imparata</i> (2)	<i>L. crassicaudata</i> (1)
	<i>A. rotundus/M. microspinus</i> (1)	<i>A. cursor</i>
	<i>G. butantanensis/M. microspinus</i> (2)	<i>O. elurus</i>
	<i>G. butantanensis/M. parvispinus</i> (3)	<i>Oryzomys</i> sp.
	<i>L. paulistanensis/M. parvispinus</i> (1)	<i>O. elurus</i>
Triple: 12	<i>A. fahrenheiti/Ornithonyssus</i> sp./ <i>P. rimatus</i> (1)	<i>O. rutilans</i>
	<i>A. guimaraesi/A. rotundus/H. imparata</i> (1)	<i>A. cursor</i>
	<i>G. butantanensis/L. paulistanensis/M. microspinus</i> (3)	<i>O. elurus</i>
	<i>G. butantanensis/L. paulistanensis/M. parvispinus</i> (5)	<i>O. elurus</i>
	<i>G. butantanensis/M. microspinus/H. travassosi</i> (1)	<i>Oryzomys</i> sp.
Quadruple: 3	<i>A. i. intermedia/C. felis felis/P. rimatus</i> (1)	<i>L. crassicaudata</i>
	<i>A. guimaraesi/A. rotundus/H. imparata/P. rimatus</i> (1)	<i>A. cursor</i>
	<i>G. butantanensis/L. paulistanensis/M. microspinus/M. parvispinus</i> (1)	<i>O. elurus</i>
	<i>G. butantanensis/L. paulistanensis/M. parvispinus/P. rimatus</i> (1)	<i>O. elurus</i>
Quintuple: 2	<i>A. fahrenheiti/Ornithonyssus</i> sp./ <i>Hoplopleura</i> sp./ <i>C. palladius/P. rimatus</i> (1)	<i>O. rutilans</i>
	<i>G. butantanensis/L. paulistanensis/M. microspinus/M. parvispinus/P. rimatus</i> (1)	<i>O. elurus</i>

onomic identification. Representative specimens have been deposited in the Department of Parasitology, Federal University of Minas Gerais. Skins and skulls of mammals are in the Department of Biology of Federal University of Santa Catarina, Brazil.

Ectoparasites collected were Acari Ixodidae: *Amblyomma auricularium* Conil, *Amblyomma* sp.; Acari Laelapidae: *Androlaelaps fahrenheiti* (Berlese), *Androlaelaps guimaraesi* (Fonseca), *Androlaelaps rotundus* (Fonseca), *Gigantolaelaps butantanensis* (Fonseca), *Laelaps paulistanensis* Fonseca, *Mysolaelaps microspinus* Fonseca, *Mysolaelaps parvispinus* Fonseca; Acari Macronyssidae: *Ornithonyssus* sp.; Anoplura: *Hoplopleura imparata* Linardi, Teixeira & Botelho, *Hoplopleura travassosi* Werneck, *Hoplopleura* sp.; Mallophaga: *Gliricola palladius* K  ller; Siphonaptera: *Adoratopsylla* (*Tritopsylla*) *intermedia intermedia* (Wagner), *Ctenocephalides felis felis* (Bouch  ), and *Polygenis rimatus* (Jordan). The number of hosts infested, as well as the number of ectoparasites found, are given in Table 1.

With the exception of the louse *Hoplopleura travassosi*, the fleas *Adoratopsylla* (*T.*) *intermedia intermedia* and *Ctenocephalides f. felis*, all ectoparasites are recorded for the first time in Santa Catarina State. The specimens of *Hoplopleura imparata* taken during the present study constitute the second Brazilian or South American record for this species. Also, the exception of the mites *Androlaelaps rotundus*, *Gigantolaelaps butantanensis*, and *Mysolaelaps microspinus* taken from two species of hosts and the flea *Polygenis rimatus*, found on four species of hosts, the other species of ectoparasites were host specific. The specificity of mites of the genus *Gigantolaelaps*, claimed by Gettinger (1987), was not confirmed. Other studies also

have not confirmed this assumption (Botelho et al. 1981, Guittton et al. 1986, Linardi et al. 1987).

The following represent new host records for *Akodon cursor*: *A. rotundus* and *H. imparata*; for *Oxymycterus rutilans*: *A. fahrenheiti*; for *Lutreolina crassicaudata*: *C. felis felis*.

The species of ectoparasites that occurred in single, double, triple, quadruple, or quintuple infestations are shown in Table 2, as well as their frequencies. The association among ectoparasites may constitute an important way for confirming identification of hosts.

The triple infestations were the most prevalent, while the single and double, or quadruple and quintuple, were equivalent. Only species of *Oryzomys* did not exhibit single infestations; however, these infestations were predominant for the other genera.

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